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EXAMINER
DAO, THUY CHAN

ART UNIT	PAPER NUMBER
2192	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/784,346	ECKELS ET AL.
Office Action Summary	Examiner	Art Unit	
	Thuy Dao	2192	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>27 January 2009</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-33 and 35</u> is/are pending in the application.

    4a) Of the above claim(s) __ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-33 and 35</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>23 February 2004</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on January 27, 2009 has been entered.

2. Claims 1-33 and 35 have been examined.

Response to Amendments

3. In the instant amendment, claims 1, 10, 13 and 23 have been amended; claim 35 has been added.

4. The objection to the claims is withdrawn in view of Applicant's amendments.

Claim Objections

5. Claim 22 is objected to because of minor informality. The phrase in line 3 is considered to read as - -...*around the [[JSP]] servlet*- -.

Appropriate correction is requested.

Response to Arguments

6. Applicants' arguments have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections – 35 USC §103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said

subject matter pertains. Patentability shall not be negatived by the manner in which the invention
was made.

8. Claims 1-6, 8-9, 13-17, 19, 23-27, 29, and 33 are rejected under 35 U.S.C. 103(a) as
being unpatentable over Spencer (art of record, US Patent Publication No.
2005/0278585 A1) in view of US Patent No. 6,493,868 to DaSilva et al. (art made of
record, hereafter "DaSilva").

Claim 1:

Spencer discloses *a computer-enabled system embodied in a storage medium to
provide a software debugging environment, comprising:*

an executing software program containing at least one data structure (e.g.,
FIG. 4, Code Window 340, program code containing at least one data structure such as
"Dim i As Integer" and "Dim lvi As ListViewItem");

*at least one abstract view capable of displaying and/or editing at least one
abstract content of the at least one data structure* (e.g., FIG. 4, abstract views as Locals
Window 320, [0044],   Autos Window 310, [0043]; FIG. 3, [0040-0045]);

*wherein the abstract content of the at least one data structure constitutes
attributes of interest* (e.g., [0043], attributes of interest such as names, values,
expressions; names and values of variables/objects in scope for the current position of
a instruction pointer, i.e., the instruction cursor in the GUI)

during the execution of the executing software program (e.g., [0027]); *and*

*rather than underlying physical data structures used to represent the
abstract content* (e.g., FIG. 4, Locals Window 320 does not display the underlying
physical data structures of data structure "Integer" of the instance "i";   Autos Window
310 does not display the underlying physical data structures of data structure
"ListViewItem" of the instance "lvi"); *and*

the underlying physical data structures (e.g., FIG. 4, code window 430,
popup window 312, data structure "ListViewItem" has underlying physical data
structures such as integers, Boolean, float for variables "bounds", "Checked", "Index",
respectively)

contents of interest from the underlying physical data structures (e.g., "bounds = [x1 =100, y1]", "Checked = False", "Index = .1")

at least one filter capable of extracting the contents of interest from the underlying physical data structures (e.g., also FIG. 4, popup 312, extracting the contents of interest and displaying "bounds = [x1 =100, y1]", "Checked = False", "Index = .1" from the underlying physical data structures integers, Boolean, float, respectively) and

and formatting the contents of interest from the underlying physical data structures (e.g., FIG. 4, popup window 314, selecting/formatting variables "Backcolor" as "ActiveBorder", "ActiveCaption", ...) and

defining a displaying and/or editing property of the at least one abstract view (e.g., FIG. 4, Pop-ups 312 and 314, [0046-0049]),

such property can include at least one of: which of the at least one abstract content is displayed, a format in which it is displayed, and how it is edited. (e.g., FIG. 4, abstract views such as Locals Window 320, Autos Window 310:

expanding a variable/object to see sub-members, [0047];

members of a variable/object may be hidden/un-visible, [0048];

if item expandable → subsequent window(s) popped up and if item un-expandable → editable in textual format, [0048];

displaying in either graphical visuals or textual format, [0049]).

Spencer does not explicitly disclose *the at least one filter is used to extract data from and manipulate one or more contents of buffer used to transmit and receive streaming data.*

However, in an analogous art, DaSilva further discloses *the at least one filter is used to extract data from and manipulate one or more contents of buffer used to transmit and receive streaming data* (e.g., col.11: 31-61, adding probe-points to manage input and output stream data → setting inp-buffer and Length to 0x64 → viewing updates in a window when executing program).

It would have been obvious to a person having ordinary skill in the art at the time
the invention was made to combine DaSilva's teaching into Spencer's teaching.   One
would have been motivated to do so to analyze embedded real-time software as
suggested by DaSilva (e.g., col.1: 38-49 and col.3: 10-18).

Claim 2:

The rejection of claim 1 is incorporated. Spencer also discloses *the system is at
least partially implemented using Java language* (e.g., [0021], [0037]).

Claim 3:

The rejection of claim 1 is incorporated. Spencer also discloses *at least one
editor associated with the at least one abstract view capable of at least one of: allowing
the at least one abstract content to be modified through the at least one abstract view;
and validating an input value to the at least one abstract content against an allowed
value for the at least one abstract content* (e.g., [0045]).

Claim 4:

The rejection of claim 1 is incorporated. Spencer also discloses *the at least one
abstract view is capable of presenting the at least one abstract content of the at least
one data structure without showing a physical implementation of the at least one data
structure* (e.g., [0043-0045]).

Claim 5:

The rejection of claim 1 is incorporated. Spencer also discloses *each of the at
least one abstract view can be individually selected for display* (e.g., [0041-0042]).

Claim 6:

The rejection of claim 1 is incorporated. Spencer also discloses *two or more of
the at least one abstract view are capable of displaying and/or editing the same one of
the at least one abstract content without being deadlocked* (e.g., [0040]).

Claim 8:

The rejection of claim 1 is incorporated. Spencer also discloses *a component capable of interactively performing at least one of: selecting a subset of the at least one of abstract view for display; and defining the displaying and/or editing property of the at least one filter* (e.g., [0043-0045]).

Claim 9:

The rejection of claim 8 is incorporated. Spencer also discloses *the component can be realized via an interface to an Integrated Development Environment IDE* (e.g., 0005-0008]).

Claims 13-17 and 19:

Claims 13-17 and 19 are method versions, which recite the same limitations as those of claims 1-6 and 8-9, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the reference teaches all of the limitations of the above claims, it also teaches all of the limitations of claims 13-17 and 19.

Claims 23-27 and 29:

Claims 13-27 and 29 are machine readable medium versions, which recite the same limitations as those of claims 1-6 and 8-9, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the reference teaches all of the limitations of the above claims, it also teaches all of the limitations of claims 23-27 and 29.

Claim 33:

Spencer discloses *a computer-enabled system embodied in a storage medium to provide a software debugging environment, comprising:*

means for displaying and/or editing at least one abstract content of at least one data structure in an executing software program (e.g., FIG. 4, Code Window 340, program code and at least one data structure, [0047] and [0027])

via at least one abstract view (e.g., FIG. 4, Locals Window 320, Autos Window 310, [0043]);

wherein the abstract content of the at least one data structure constitutes attributes of interest (e.g., [0043], attributes of interest such as names, values, expressions of variables/objects)

during the execution of the executing software program (e.g., [0027] and [0047])

rather than underlying physical data structures used to represent the abstract content (e.g., FIG. 4, Locals Window 320 does not display the physical structures of data structure "Integer" of the instance "i"; Autos Window 310 does not display the physical structures of data structure "ListViewItem" of the instance "lvi"); *and*

means for extracting and formatting the contents of interest from the underlying physical data structures (e.g., FIG. 4, popup windows 312 and 214) *and*

defining a displaying and/or editing property of the at least one abstract view via at least one filter (e.g., FIG. 4, Pop-ups 312 and 314, [0046-0049]),

such property can include at least one of: which of the at least one abstract content is displayed, a format in which it is displayed, and how it is edited (e.g., FIG. 4, abstract views such as Locals Window 320, Autos Window 310:

expanding a variable/object to see sub-members, [0047];

members of a variable/object may be hidden/un-visible, [0048];

if item expandable → subsequent window(s) popped up and if item un-expandable → editable in textual format, [0048];

displaying in either graphical visuals or textual format, [0049]).

Spencer does not explicitly disclose *the at least one filter is used to extract data from and manipulate one or more contents of buffer used to transmit and receive streaming data.*

However, in an analogous art, DaSilva further discloses *the at least one filter is used to extract data from and manipulate one or more contents of buffer used to transmit and receive streaming data* (e.g., col.11: 31-61, adding a probe-points to manage input and output streams → setting inp-buffer and Length to 0x64 → viewing updates in a window when executing program).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine DaSilva's teaching into Spencer's teaching. One would have been motivated to do so to analyze embedded real-time software as suggested by DaSilva (e.g., col.1: 38-49 and col.3: 10-18).

9. Claims 7, 10-12, 18, 20-22, 28, and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spencer in view of DaSilva and Charisius (art of record, US Patent No. 7,051,316 B2).

Claim 7:

The rejection of claim 1 is incorporated. Spencer does not explicitly discloses *the at least one filter can be defined via configuration information stored in a file, which can be an XML file.*

However, in an analogous art, Charisius further discloses *the at least one filter can be defined via configuration information stored in a file, which can be a file in a markup language* (e.g., FIG. 51-52, col.42: 10-23; col.44: 15-41).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Charisius' teaching into Spencer and DaSilva's teaching. One would have been motivated to do so to provide an improved software development tool that crates a graphical representation of source code regardless of the programming language in which the code is written as suggested by Charisius (e.g., col.11: 4-11 and 29-38; col.38: 28-61).

Claim 10:

The rejection of claim 1 is incorporated. Charisius further discloses *at least one component capable of supporting the debugging of a server page and a machine generated servlet that implements the server page* (e.g., FIG. 49, col.38; 44-66).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Charisius' teaching into Spencer's teaching. One would have been motivated to do so to as set forth above.

Claim 11:

The rejection of claim 10 is incorporated. Charisius further discloses *the at least one component can perform at least one of: extracting and displaying a code and/or a content of interest, and mapping them to a format used in a source code in a JSP page, for use with executing a JSP servlet; following an execution path through at least one level of redirection using at least one tag; extracting and manipulating a streaming data from a content of a buffer used to transmit and receive the streaming data; and setting at least one break point in a JSP page and stepping through the execution of the page based on the displaying property* (e.g., col.39: 1-54).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Charisius' teaching into Spencer and DaSilva's teaching. One would have been motivated to do so to as set forth above.

Claim 12:

The rejection of claim 11 is incorporated. Charisius further discloses *the streaming data can be extracted by inserting a wrapper or "writer" class around the servlet* (e.g., col.40: 31-66).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Charisius' teaching into Spencer and DaSilva's teaching. One would have been motivated to do so to as set forth above.

Claims 18 and 20-22:

Claims 18 and 20-22 are method versions, which recite the same limitations as those of claims 7 and 10-12, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the reference teaches all of the limitations of the above claims, it also teaches all of the limitations of claims 18 and 20-22.

Claims 28 and 30-32:

Claims 28 and 30-32 are method versions, which recite the same limitations as those of claims 7 and 10-12, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the reference teaches all of the limitations of the above claims, it also teaches all of the limitations of claims 28 and 30-32.

10. Claim 35 is are rejected under 35 U.S.C. 103(a) as being unpatentable over Spencer in view "JSTL: JSP Standard Tag Library Kick Start", book publisher Sams, published date September 2002 (art made of record, hereafter "JSP Standard Tag Library Book").

Claim 35 (new):

Claim 35 recites the same limitations as those of Spencer's teachings in claim 1, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the reference teaches all of the limitations of the above claim, it also teaches all of the limitations of claim 35.

Spencer does not explicitly disclose other limitations.

However, in an analogous art, JSP Standard Tag Library Book further discloses:

a JSP source code to be debugged associated with a tag library (e.g., page 12-1 to 12-3, debugging JSP pages with JSTL as JSP standard tag library);

at least one filter allows a user to select which method in the tag library should be hit when stepping into the tag library from the JSP source code (e.g., page 12-9 to 12-14, using the Eclipse IDE with setting windows to insert breakpoint and stop program at a specific JSP tag; page 12-16 how to set a breakpoint in Eclipse IDE).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine JSP Standard Tag Library Book's teaching into

Spencer's teaching. One would have been motivated to do so to debug JavaServer pages including tags as suggested by JSP Standard Tag Library Book (e.g., page 1-1 to 1-3 and page 12-1 to 12-2).

Conclusion

11. Any inquiry concerning this communication should be directed to examiner Thuy Dao (Twee), whose telephone/fax numbers are (571) 272 8570 and (571) 273 8570, respectively. The examiner can normally be reached on every Tuesday, Thursday, and Friday from 6:00AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam, can be reached at (571) 272 3695.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is (571) 272 2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Thuy Dao/   /Tuan Q. Dam/
Examiner, Art Unit 2192   Supervisory Patent Examiner, Art Unit 2192